

1. A live center belt tensioner comprising:
first and second pulleys;
a belt reeved over the first and second pulleys;
a first biasing mechanism tensioning the first pulley away from the second pulley in a pivoting fashion; and
belt load on the pulleys thereby reorienting when torque is applied.
2. The tensioner of claim 1 employing a geometry such that as torque is applied, belt tension varies proportionally.
3. The tensioner of claim 1 further comprising:
a drive motor on which the first pulley is mounted, the first pulley comprising a drive pulley;
a motor plate on which the drive motor is mounted and that is in turn attached to a frame a device in which the motor is employed; and
a freely pivoting connection between the motor plate and the frame.
4. The tensioner of claim 1 wherein the second pulley is attached to a drum of a device in which the motor is employed.
5. The tensioner of claim 1 wherein the motor plate is biased away from the driven pulley by the first biasing mechanism so as to induce tension in the belt.
6. The tensioner of claim 1 wherein the first biasing mechanism comprises a spring that generates a biasing moment M_{bias} about the pivot point.

7. The tensioner of claim 6 wherein the first biasing mechanism is a linear force device mounted at a distance d_{bias} from the pivot point.

8. The tensioner of claim 6 wherein the first biasing mechanism comprises a torsional spring mounted about the pivot point.

9. The tensioner of claim 1 further comprising a second biasing mechanism that tensions the second pulley away from the first pulley.

10. A belt tensioner comprising:

a pivoting motor mount attached to a frame;

a pivot point of the pivoting motor mount about which the pivoting motor mount pivots and via which the pivoting motor mount is attached to the frame;

a first pulley attached to the pivoting motor mount and receiving motive power from a motor mounted on the pivoting motor mount;

a second pulley attached to an element of a machine in which the tensioner is used;

a belt reeved over the first pulley and the second pulley, thereby transferring motive power from the motor to the second pulley via the first pulley; and

a first biasing device attached to the pivoting mount and biasing the first pulley away from the second pulley such that changes in motive power from the motor result in changes in biasing moment on the pivoting motor mount, as well as belt tension.

11. The tensioner of claim 10 employing a geometry such that as torque is applied, belt tension varies proportionally.

12. The tensioner of claim 10 wherein the motor mount comprises a motor plate on which the drive motor is mounted and that is in turn attached to a frame of a device in which the tensioner is employed, and the motor plate is attached to the frame via a freely pivoting connection between the motor plate and the frame.

13. The tensioner of claim 10 wherein the second pulley is attached to a drum of a device in which the motor is employed.

14. The tensioner of claim 10 wherein the motor mount is biased away from the driven pulley by the first biasing mechanism so as to induce tension in the belt.

15. The tensioner of claim 10 wherein the first biasing mechanism comprises a spring that generates a biasing moment M_{bias} about the pivot point.

16. The tensioner of claim 15 wherein the first biasing mechanism is a linear force device mounted at a distance d_{bias} from the pivot point.

17. The tensioner of claim 15 wherein the first biasing mechanism comprises a torsional spring mounted about the pivot point.

18. The tensioner of claim 10 further comprising a second biasing mechanism that tensions the second pulley away from the first pulley.

19. The tensioner of claim 18 wherein the second biasing mechanism is a linear force device mounted at a distance d_{bias} from the pivot point.

20. The tensioner of claim 18 wherein the second biasing mechanism comprises a torsional spring mounted about the pivot point.

21. In a marking device comprising a frame, a media path and a rotating element driven by a motor via a belt, a drive pulley, and a driven pulley, the belt being reeved over the drive pulley and the driven pulley, a tensioner comprising a pivoting motor mount attached to the frame via a freely pivoting connection at a pivot point, a first biasing mechanism arranged to induce a biasing moment M_{bias} about the pivot point, and belt load on the pulleys thereby reorienting when torque is applied.

22. The tensioner of claim 21 arranged such that as torque is applied, belt tension varies proportionally.

23. The tensioner of claim 21 wherein the second pulley is attached to a drum of a device in which the motor is employed, the drum comprising a part of the media path.

24. The tensioner of claim 21 wherein the motor plate is biased away from the driven pulley by the first biasing mechanism so as to induce tension in the belt.

25. The tensioner of claim 21 wherein the first biasing mechanism comprises a spring that generates a biasing moment M_{bias} about the pivot point.

26. The tensioner of claim 25 wherein the first biasing mechanism is a linear force device mounted at a distance d_{bias} from the pivot point.

27. The tensioner of claim 25 wherein the first biasing mechanism comprises a torsional spring mounted about the pivot point.

28. The tensioner of claim 21 further comprising a second biasing mechanism that tensions the second pulley away from the first pulley.

29. The tensioner of claim 28 wherein the second biasing mechanism is a linear force device mounted at a distance d_{bias} from the pivot point.

30. The tensioner of claim 28 wherein the second biasing mechanism comprises a torsional spring mounted about the pivot point.

31. The tensioner of claim 21 wherein the marking device is a phase change ink jet device.

32. The tensioner of claim 21 wherein the marking device is an electroreprographic device.